What is claimed is:

1. A confocal imaging system for dermatological examinations of a tissue sample which comprises:

a handheld housing;

confocal imaging optics in said housing for focusing and scanning a focal spot in a plane through the tissue sample; and

a source of laser illumination which illuminates the tissue sample through the confocal imaging optics.

2. The system of Claim 1 wherein said confocal imaging optics further comprises means for collecting and imaging reflected light from the illuminated tissue sample.

3. The system of Claim 1 wherein said source is enabled to provide laser illumination at a wavelength transparent to said tissue.

4. The system of Claim 1 wherein said confocal imaging optics comprises a lens, and means for moving the position of said lens to enable scanning of said focal spot through the tissue sample.

5. The system of Claim 4 wherein said moving means further comprises means for moving said lens in one of different said planes through the tissue sample so as to provide sections from the group consisting of: horizontally spaced sections, angularly spaced sections, and vertically spaced sections.

6. The system of Claim 4 wherein said moving means is provided by a plurality of positioning actuators.

7. The system of Claim 1 wherein said confocal imaging optics comprises means for converting said laser illumination into circularly polarized light to enable said

tissue sample to be illuminated by said circularly polarized light.

8. The system of Claim 7 wherein said confocal imaging optics further comprises means for collecting circularly polarized light reflected light from the illuminated tissue sample which is orthogonal to the circularly polarized light which illuminated the tissue sample.

9. The system of Claim 1 further comprising a window in said housing through which said confocal imaging optics illuminates said tissue sample, said window having a surface spaced from said tissue sample.

10. The system of Claim 9 further comprising an optical index matching fluid located between said surface of said window and said tissue sample.

11. The system of Claim 1 further comprising a detection system for receiving reflected light from the illuminated tissue sample, said received reflected light having a coherent component.

12. The system of Claim 11 wherein said detection system produces, responsive to said coherent component of said received reflected light, electrical signals representative of a section of said tissue sample.

13. The system of Claim 11 wherein said detection system further comprising a photo-detector assembly, and optical elements for relaying said coherent component of said reflected light to said photo-detector assembly, said photo-detector assembly being enabled to convert said coherent component of said reflected light into electrical signals.

14. The system of Claim 12 further comprising means for collecting data representative of said electrical signals, and means for processing said collected data to display a scan image of said tissue sample based on said collected data.

15. The system of Claim 11 wherein said confocal imaging optics, said detection system, and said source are a unitized construction in said housing.

16. The system of Claim 1 wherein said laser illumination from said source is a laser beam, said system further comprises a photo-detector assembly for converting received light into electrical signals, and said confocal imaging optics comprise:

a beam splitter for receiving said laser beam from said source at an oblique angle and providing a circular beam;

a plate incident to said circular beam which polarizes said circular beam to provide a circularly polarized beam;

a lens incident to said circularly polarized beam to focus said circularly polarized beam into said tissue sample and to collect light returned from said tissue sample;

said returned light being incident to said plate and then to said beam splitter; and

said beam splitter reflects part of said returned light incident thereto, and said reflected part of said returned light is optically coupled to said photo-detector assembly.

17. The system of Claim 16 wherein said returned light from said tissue collected by said lens has a component which is circularly polarized orthogonal to the beam focused into the tissue sample, said plate converts the component of the returned light into linearly polarized orthogonal light, and said beam splitter by reflecting part of said returned light filters said component from said returned light.

18. A method of providing a display of a section in dermal tissue (skin) below the surface of the skin which comprises the steps of:

directing a laser beam via confocal optics having a lens to the skin;

varying position of said lens to scan a focal spot over a succession of lines along a plane below the skin surface;

detecting and imaging light returned from the tissue as said spot scans;

converting said light into signals; and

processing said signals to provide a display of said section.

19. The method of Claim 18 wherein said laser beam operates at a wavelength transparent to the dermal tissue.

20. The method of Claim 18 wherein said step of detecting and imaging light is responsive to said position of said lens.

21. The method of Claim 18 said step of varying the position of said lens further comprises the step of varying the position of said lens to scan along said plane oriented below the skin surface so as to provide sections from the group consisting of: horizontally spaced sections, angularly spaced sections, and vertically spaced sections.

22. The method of Claim 18 wherein said step of directing a laser beam via confocal optics further comprises the steps of converting said laser beam into circularly polarized light, and illuminating said dermal tissue by said circularly polarized light.

23. The method of Claim 22 wherein said step of detecting and imaging light returned from the tissue further

comprises the step of collecting circularly polarized light reflected from the illuminated tissue sample which is orthogonal to the circularly polarized light which illuminated the tissue sample.

24. The method of Claim 18 wherein said step of directing a laser beam via confocal optics further comprises providing a window having a surface through which said confocal optics directs said laser beam to the skin, and providing an optical index matching fluid located between said surface of said window and said surface of said skin to reduce light reflected from the surface of the skin.

25. The method of Claim 18 wherein said step of directing a laser beam via confocal optics having a lens to the skin further comprises the steps of:

translating said laser beam into a circular beam;

circularly polarizing said circular beam; and

focusing with said lens said circularly polarized beam into said dermal tissue.

26. The method of Claim 25 wherein said step of detecting and imaging light returned from the tissue as said spot scans further comprises the steps of:

collecting with said lens light returned from said tissue sample, said returned light having a component of circularly polarized light orthogonal to said circularly polarized beam focused into said dermal tissue;

linearly polarizing said component of said returned light; and

filtering said linearly polarized component, wherein said converting step is responsive to said filtered linearly polarized component of said returned light.